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NOMENCLATURAL PROPOSAL PHYTOSOCIOLOGICAL NOMENCLATURE

Proposal (30) to conserve the name *Polysticho setiferi-Fraxinetum excelsioris* (Tüxen et Oberdorfer 1958) Rivas-Martínez ex Díaz et Fernández Prieto 1994 with a conserved type

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Abstract

Abstract: The association *Polysticho setiferi-Fraxinetum excelsioris* was described as a meso-eutrophic thermophilic forest dominated by common oak (*Quercus robur*) with a distribution that includes the Oviedo district in Asturias and the Basque-Cantabrian area (N Spain and SW France). However, when a lectotype was chosen to comply with Article 19 of the ICPN, a relevé dominated by beech was selected, which leads to interpretive problems. Given that the most widespread interpretation of this association in the phytosociological literature is the one established by its original authors (i.e., a meso-eutrophic oak-ash forest), we consider that this name should be retained, but its type should be changed to a conserved *neotypus* according to Article 53 of the 4th edition of the ICPN.

(30) *Polysticho setiferi-Fraxinetum excelsioris* (Tüxen et Oberdorfer 1958) Rivas-Martínez ex Díaz et Fernández Prieto 1994

Typus: see below (typus cons. propos.)

Taxonomic reference: Castroviejo et al. (1986–2021).

Syntaxonomic reference: Rivas-Martínez (2011).

Abbreviations: ICPN = International Code of Phytosociological Nomenclature.

Keywords

Basque-Cantabrian area, common oak-ash forest, conserved type, meso-eutrophic forest, nomenclature, northern Spain, Oviedo district, southwestern France

Introduction

The lowland forests dominated by common oak (*Quercus robur*) with regular participation of *Fraxinus excelsior* and *Corylus avellana*, more sporadic presence of other deciduous tree species, a high number of shrubs and herbs in the understory, and growing on basic to neutral soils in the Atlantic part of the Basque Country, were initially described by P. Allorge in his monography of the Basque Country (Allorge 1941: 334–335). There are no

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formal relevés in that work, but the description of the floristic composition, the geographic distribution and the site conditions frame a forest type which is clearly recognizable in the landscape of the eastern half of the Cantabrian fringe. Later, in their monograph of Spain, Tüxen and Oberdorfer (1958: 284, tab. 87) described the association *Corylo-Fraxinetum cantabricum*, explicitly referring to Allorge's unit and indicating its relationship with the Central European association *Querco-Carpinetum* and the geographic vicariance to the Irish *Corylo-Fraxinetum*. The relevés published in table 87 of Tüxen and Oberdorfer (1958) were classified into five subassociations. In most of them, *Quercus robur* has a rather low frequency and cover, including the "typical subassociation" (rels. 158 and 139). This scarcity of oak in the forests studied by these authors was explained by the transformation of their best representations into farmland (i.e., deforestation), as already reported by Allorge. Due to the scarcity of forests dominated by *Q. robur* throughout the surveyed territory, Tüxen and Oberdorfer preferred to use *Fraxinus excelsior* as the name-giving tree species of the association instead of *Quercus robur*, as they had already done for the Irish forests (Braun-Blanquet and Tüxen 1952).

According to Article 34 of the ICPN (Theurillat et al. 2021), names containing geographical epithets, such as *cantabricum*, are illegitimate. Rivas-Martínez renamed the *Corylo-Fraxinetum cantabricum* into *Polysticho setiferi-Fraxinetum excelsioris*, a name used for the first time in the PhD thesis of C. Navarro (1981: 83) in the form "*Polysticho-Fraxinetum* R. Tx. & Oberd. 1958 em. nov. Rivas-Martínez". Therefore, the association is often cited as "*Polysticho setiferi-Fraxinetum excelsioris* (Tüxen & Oberdorfer 1958) Rivas-Martínez ex C. Navarro 1982" (the year 1982 is a mistake because the thesis was published in 1981). The relevés of this monograph, which are from Biscay (Basque Country) (Navarro 1981: table 33), are dominated by ash and hazel, but they contain more oak than those of Tüxen and Oberdorfer (1958).

In the following years, several monographs and surveys of the area accepted this association to include the meso-eutrophic mixed forest with a high frequency and abundance of *Quercus robur* existing in the lowland territories located between the mouths of the rivers Adour (Department of Pyrenées Atlantiques, SW France) and Nalón (Principality of Asturias, N Spain) (Loidi 1983; Rivas-Martínez et al. 1984, 1985; Aedo 1985; Onaindia 1986; Catalán 1987; Díaz and Fernández Prieto 1994; Herrera 1995; Loidi et al. 1997, 2011; Amigo et al. 2017). However, the publication of C. Navarro's monograph in 1981 was not effective as it was only a xerocopy lacking an ISBN number (Article 1). Therefore, the name *Polysticho setiferi-Fraxinetum excelsioris* was not validly published in that work. The validation was done incidentally by Díaz and Fernández Prieto (1994: 279), who lectotypified the name and indicated the *Corylo-Fraxinetum cantabricum* Tüxen et Oberdorfer 1958 as a synonym. Thus, the correct citation of the association name is *Polysticho setiferi-Fraxinetum excelsioris* (Tüxen et Oberdorfer 1958) Rivas-Martínez ex Díaz et Fernández Prieto 1994.

In application of Article 19 of the 2nd edition of the code (Barkman et al. 1986), Díaz and Fernández Prieto (1994: 280) selected the lectotype from one of the two relevés included in the typical subassociation of the original table (Tüxen and Oberdorfer 1958, table 87, p. 286–289, rel. 139), the only one containing *Quercus robur* (+.2), but dominated by *Fagus sylvatica* (4.4). This relevé is far from representing the concept of the association accepted by most authors in the last decades, i.e., a forest with high frequency of (and often dominated by) *Quercus robur*, while *Fagus sylvatica* is a relatively rare species. The two relevés published by Tüxen and Oberdorfer represent untypical examples of this vegetation, either of high-altitudes with higher rainfall than average, resulting in a dominance of *Fagus sylvatica* (the typus designated by Díaz and Fernández Prieto 1994), or of humid sites with several plants of the alder riverine forests. None of them represents the typical version of these forests as has been revealed by the abovementioned surveys done in the Cantabrian territories. Indeed, even Tüxen and Oberdorfer (1958: 291) expressed doubts about the representativeness of these two relevés: "Dem Typus des *Corylo-Fraxinetum* dürften die beiden ersten Aufnahmen der Tabelle 87 wenigstens in der Artenverbindung nahekommen, wenn auch das Verhältnis ihrer Holzarten in beiden Fällen wohl nicht der Regel entspricht." [The first two relevés of table 87 are probably relatively close to the type of the *Corylo-Fraxinetum*, at least in the species combination, although in both cases the relative abundance of the tree species deviates from the norm.] In conclusion, an inadequate type was linked to this association name.

Proposal

As the name *Polysticho setiferi-Fraxinetum excelsioris* has been repeatedly used in the phytosociologic literature and in many technical reports and administrative documents, we consider that it should be retained, but its type should be changed and a neotype designated in accordance with Article 53 of the 4th edition of the ICPN (Theurillat et al. 2021). This conclusion is also enforced by Article 19a, which states that relevés that, in the author's opinion, do not correspond exactly to the named syntaxon should not be selected for a lectotype. Therefore, we propose the following relevé as conserved neotypus:

Neotypus hoc loco. Site: Palacio de Meres, Siero, Principality of Asturias, Spain; geographical coordinates (WGS-84): -5.75350249°W, 43.37929583°N; altitude: 180 m a.s.l.; slope: 10°; aspect: NW; plot area: 300 m^2; substrate: marls, clays and sandstones with whitish and pinkish limestones from the Eocene; date: 07.07.2021.

Tree layer (> 4.0 m, most of the individuals above 25 m high): *Quercus robur* 5, *Ilex aquifolium* 3, *Acer pseudoplatanus* 1, *Corylus avellana* 1, *Fraxinus excelsior* 1. **Shrub layer (1.5–4.0 m):** *Prunus spinosa* 1, *Euonymus europaeus* +, *Ligustrum vulgare* +, *Rosa canina* +, *Rosa sempervirens* +, *Sambucus nigra* +, *Viburnum lantana* +, *Taxus baccata*

+. **Herb layer:** *Hedera hibernica* 3, *Rubus* sp. pl. 2, *Brachypodium sylvaticum* 1, *Carex sylvatica* 1, *Dryopteris affinis* subsp. *borreri* 1, *Geranium robertianum* 1, *Glechoma hederacea* 1, *Lamium maculatum* 1, *Lonicera periclymenum* 1, *Polygonatum odoratum* 1, *Polystichum setiferum* 1, *Ruscus aculeatus* 1, *Urtica dioica* 1, *Ajuga reptans* +, *Athyrium filix-femina* +, *Carex pendula* +, *Chamaeiris foetidissima* +, *Dryopteris dilatata* +, *Euphorbia amygdaloides* +, *Geum urbanum* +, *Hypericum androsaemum* +, *Polygonatum multiflorum* +, *Potentilla sterilis* +, *Pulmonaria longifolia* +, *Primula vulgaris* +, *Rubia peregrina* +, *Rumex conglomeratus* +, *Stachys officinalis* +, *Stachys sylvatica* +, *Solanum dulcamara* +, *Tamus communis* +, *Viola* gr. *riviniana* +.

Authors contributions

All authors have contributed to the discussion of the nomenclatural problem, to the analysis of the data and to the debate on the proposed solution.

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